

# Material Data Sheet



## BÖGRA - PSN3

*CuSn11Pb2-C*

Chemical Composition [wt%]	
Cu	remainder
Sn	11,5
Pb	1,6
Zn	<2,0
Ni	<2,0
P	<0,4

### Material Designation

Bögra: **PSN3** according to Production-Specification BT-PSN3-221

DIN: Complies with CuSn11Pb2-C according to DIN EN 1982:2017

### Material-No.

CC482K (formerly 2.1061 according to DIN 1705)

### Supplied as

- Machined Slide Bearings
- Semi-finished products: rods, tubes, profiles, flat bars

### Applications

This material has given excellent service in **highly stressed bearings in machine tools, for wearing washers, end-stop washers and connecting rod bushes up to the largest diameters in heavy duty combustion engines**, especially two-stroke diesels, where the peculiarity of the loading (without a change in load) is particularly demanding. Can be used for crank and toggle bearings with peak loads up to  $p = 600$  bar. The opposing material should be as hard and cleanly ground as possible or, for the most demanding conditions, finely ground and lapped. Nodular graphite cast iron is also a suitable shaft or carrier material.

Used for **heavy-duty bearings such as main spindle bearings of machine tools and bearings in presses and gearboxes**. This material is especially suitable for **guide rails, slides and slide blocks** not subjected to excessive shock load.

Physical properties (standard values)			
Condition		GC	GM
Density	$\rho$ [kg/dm <sup>3</sup> ]	8,7	
Coefficient of thermal expansion	$\alpha$ [ $\cdot 10^{-6}/K$ ]	17,2	
Electrical conductivity	$\kappa$ [MS/m]	6,1	
Modulus of elasticity	$E$ [kN/mm <sup>2</sup> ]	95	

Mechanical properties (standard values)			
Condition		GC	GM
Brinell Hardness	<b>HBW</b>	Min. 90	
0,2% - proofstress	<b>R<sub>p0,2</sub></b> [N/mm <sup>2</sup> ]	Min. 150	
Tensile strength	<b>R<sub>m</sub></b> [N/mm <sup>2</sup> ]	Min. 280	
Elongation	<b>A</b> [%]	5	
Compressive strength	<b>R<sub>d</sub></b> [N/mm <sup>2</sup> ]	Min. 150	
Max. loading pressure	<b>p<sub>zul.</sub></b> [N/mm <sup>2</sup> ]	Max. 80	

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